

Rabbit control options



HAWKES BAY
REGIONAL COUNCIL

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Contents



European Wild Rabbit

Description	4
Origin	4
Where are rabbits found?	4
How do rabbits spread?	4
Why are rabbits a problem?	4
Status as a pest animal in the Hawke's Bay	4
How do I get rid of rabbits?	5
Damage caused by rabbits	5
Rabbit signs	5
Commercial pest controllers	5

Poison

Chronic poisons	6
Acute poisons	6
Controlled substance licences (CSL)	6
General points to consider before poisoning	6
Poisoning methods	7
Laying baits	7
Practical control options for landowners	8
Safety with rabbit poisons and fumigants	9

Fumigation

Suitable fumigants for rabbit control	10
How to fumigate a rabbit burrow	11

Exclusion fencing

13

Repellents

13

Habitat manipulation

14

Trapping

14

Nightshooting and rifling

15

Suitable firearm	15
Suitable spotlights for nightshooting	16
Techniques for nightshooting	16
Planning a nightshoot	16
Spotlight techniques	17
Shooting techniques	18
Use of vehicles and motorbikes for nightshooting	18

European wild rabbit

Oryctolagus cuniculus

Description

Body: Small burrowing herbivore with long ears and hind legs.

Colour: Grey brown with a black rim on ears and brown eyes. Colour may vary if crossed with escaped pet varieties, usually black and white.

Size: Rabbits grow to a body weight of 1.3 to 2.1 kg (adult male).

Origin

Native to Europe, introduced into New Zealand in 1850s.

Where are rabbits found?

Rabbits can readily adapt to most environments, and readily take up residence in a wide range of habitats. They are generally found around farmland, coastal environments, urban gardens and parks.



How do rabbits spread?

Rabbits are very adaptable, are highly mobile and can breed at a young age. Females can be pregnant 70 percent of the time, meaning numbers can build quickly.

Why are rabbits a problem?

Rabbits are an agricultural pest affecting soils, availability of stock food in very high numbers and crop production.

They compete with stock for pasture and cause erosion through the disturbance of soil.

Status as a pest animal in Hawke's Bay

Objective 13

Over the duration of the Plan, sustainably control rabbits to ensure population levels are maintained below Level 4 on the Modified McLean Scale (2012) in order to minimise adverse effects on production and environmental values within the Hawke's Bay region.

Plan Rule 17

Except where an occupier of land has entered into an active Written Management Agreement approved by Hawke's Bay Regional Council, and upon receipt of a written direction from an Authorised Person, an occupier of land shall maintain rabbit populations at or below level 4 of the Modified McLean Scale from mid-January to mid-August, over any part of their land.

A breach of this rule creates an offence under section 154N (19) of the Act.

Explanation of rule

The reason for this rule is to maintain the population levels of rabbits to that which prevents adverse effects on the economic values of occupiers, and in so doing, prevent the possible adverse effects on wider environmental values.

Hawke's Bay Regional Council will offer advice and support to landowners to assist in controlling populations.

How do I get rid of rabbits

- *Poisoning*
- *Fumigation (of rabbit burrows)*
- *Exclusion fencing*
- *Use of repellents*
- *Habitat manipulation*
- *Trapping*
- *Commercial pest controllers*

Damage caused by rabbits

Rabbit burrows are probably the most obvious form of damage noticeable. However, these are not always present or may be concealed under buildings or other cover. Rabbits will damage lawns by scratching soil or eating new plant growth, they will also browse the top of older plants. Freshly turned soil is irresistible to rabbits.



Small trees and shrubs may have the bark of their trunks and lower branches bitten (trees may be killed by ring-barking in severe cases) and their root systems may be exposed as a result of rabbits scratching around their bases.

Rabbit signs

Rabbits are generally nocturnal, but are frequently seen outside their burrows during the day, particularly dawn and dusk.

As well as the signs previously mentioned, rabbits leave droppings in small heaps or scattered throughout their feeding areas. Droppings are generally dark in colour, oval-shaped and approximately 8 to 10 mm in length.

Alternatively, a Hawke's Bay Regional Council Biosecurity Advisor can verify whether rabbits are present or not.

Commercial pest controllers

If you have concerns about using any of the following techniques to control your nuisance rabbits, contact your local Hawke's Bay Regional Council Biosecurity Advisor, who will arrange for a pest control contractor to provide advice and guidance. Hawke's Bay residents are eligible for a free consultation with the rabbit control contractor for a period of up to an hour and a half.



Poison



Poisons offer a cost-effective approach for reducing medium to heavy infestations of rabbits. Low numbers of rabbits can also be effectively controlled with suitable poisons. Care is required with poisons. Indiscriminate use will not only fail to properly control rabbits, it may also endanger human life, domestic stock, pets and native wildlife.

Two types of poison are commonly used for rabbit control: chronic poisons and acute poisons.

Chronic poisons

These poisons are usually slow acting and have a cumulative effect; rabbits must consume several applications of treated baits over a number of days to acquire a lethal dose. Chronic poisons are relatively safe to handle and a Controlled Substance licence (CSL) is not usually required to purchase or use.

The most commonly used rabbit poison of this type in Hawke's Bay is Pindone. Although a CSL is not required to purchase or use Pindone in a baitstation, CSL or an Approved Use for Pindone Certificate is required when hand broadcasting Pindone onto the ground.

Acute poisons

These poisons are fast acting and will kill rabbits after a single dose. Acute poisons are potentially hazardous and are controlled pesticides i.e. a CSL is required to purchase and use such poisons. Due to the requirement of a CSL, it is imperative that a qualified and experienced operator be engaged to carry out the work, to ensure it is completed safely and effectively.

Controlled substance licences (CSL)

A Controlled substance licence (CSL) is required to possess (purchase and use) vertebrate toxins. To begin the CSL application process or for further information, go to the WorkSafe website at the following address:

<https://worksafe.govt.nz>

General points to consider before poisoning

- Within rabbit habitats there are specific feeding areas, target these areas when undertaking control operations.
- During the main rabbit-breeding season (late winter to early summer) bucks vigorously defend their territorial boundaries and young rabbits do not travel far from their burrows. It is not advisable to try poisoning during this time.
- Prevent any hunting within the area to be poisoned for at least three months prior to the intended operation. A quiet rabbit population will generally accept baits more readily allowing a good kill to be achieved.
- Before starting an operation test the rabbit acceptance of baits. For small poison operations, pre-feed baits (i.e. baits containing no poison) can be laid within one or two rabbit feed areas. Check baits over several days to ensure that rabbits are eating them.
- Plan stock movements in advance to accommodate the intended poisoning operation. Where baits are in paddocks, it may be a month or more (depending on weather) before uneaten baits degrade sufficiently to be non-toxic to stock. If using baits on spits, stock still need to be excluded from the operation area for two to three weeks during the course of the operation.
 - In the North Island, late autumn and winter months are good times for poisoning. During this period, rabbit acceptance of baits is generally good.

- Notify all adjoining land occupiers of the intention to lay poisons. It is possible that poisoned animals may die on their land and expose dogs to secondary poisoning risks, depending on the bait used this risk may be low.
- Ensure that compliant warning signs are erected at all access points to the land being treated.
- Consider the weather before laying baits. While rain may not completely wash baits out, it will affect the toxicity of poison baits. This may lead to rabbits eating sub-lethal baits, which often results in bait shyness.

Poisoning methods

Hand Broadcasting

This is the easiest and most common method of bait application but requires certification. Baits are scattered by hand at the appropriate rate over areas containing rabbit sign. This method is suitable for applying pellet and carrot baits and baits can be very targeted. Take care to avoid spreading or spilling poisonous baits outside the target area.

Baitstations

Rabbit specific baitstations are available for poisoning operations; a number of options are available. While baitstations may have an advantage of not requiring certification, generally rabbits are cautious about feeding from them. For this reason results when using baitstations can be quite variable.

Baitstation guidelines are available on page 8.

Spitting

Spits are simply sods of earth upturned with a spade or grubber. The smell of freshly turned earth reportedly attracts rabbits. This is an ideal method for treating small areas, but can be used in larger areas if paddocks are needed for grazing.



Compared with broadcasting, this method is labour intensive therefore is not commonly undertaken.

Aerial Application

(CSL holders only, requires a resource consent)

This option is generally only considered for landscape scale control, with high density infestations and difficult access, cost-effective control is normally achieved by using top-dressing planes or helicopters to apply baits. Before considering this option, discuss your rabbit problem with the local Hawke's Bay Regional Council Biosecurity Advisor.

Laying baits

- Use good quality fresh bait. Rabbits are selective feeders and will reject stale or tainted baits, ideally order the bait immediately prior to the operation start. If using carry bags to transport bait ensure that they have been cleaned in fresh water. Do not use detergents as these are readily sensed by rabbits.
- When using chronic poisons deploy ample bait. It is better to slightly over-feed than not to apply enough bait. Ideally it should take the resident rabbit population three to four days to eat all bait applied to feed areas. If all bait has been eaten within this time, the block has been underfed and the second feed should be applied at a higher application rate. If there is still bait remaining after four days, reduce the second feed accordingly.
- Be thorough; ensure that all areas containing rabbit sign are treated with baits.
- When applying baits in lighter rabbit infestations, it is better to lay more lines with less bait rather than few lines that are heavily baited. Coverage is very important to achieve a high success rate regardless of the level of infestation.
- Where acute poisons are used, pre-feed baits must be available to the rabbits for at least one week. It is normal to apply at least two pre-feeds before the application of toxic baits when using acute poisons. Some individual rabbits may be hesitant feeders and must be given adequate time to accept baits.

Practical control options for landowners

Using Pindone Rabbit Pellets

Pindone is one of the more widely used poisons for rabbit control as while rabbits are particularly susceptible to Pindone, non-target species such as cats and dogs are five to six times more resistant and humans are 100 times more resistant. This makes Pindone, when used correctly, a safe poison to use in the urban environment. However, as with rat baits, which contain similar poisons, it is essential that the manufacturer's instructions are followed.

Like most anticoagulants, Pindone is slow acting and requires the rabbit to consume baits over several days to be effective, with this in mind it is considered to be a humane poison.

Should a domestic pet gain access to baits and accidental poisoning is suspected, the animal should be taken to a vet who will administer Vitamin K1, which is an effective antidote.

Direction for use without baitstations

First, read the instructions attached to the poison bag explaining the correct handling of Pindone poison.

You must be appropriately certified to lay Pindone directly onto the ground. **Uncertified, intentional application of Pindone, outside of bait stations, is a breach of the Hazardous Substances and New Organisms Act 1996.**

Ensure that no domestic stock or pets have access to the treatment area. Thoroughly inspect your property to locate all rabbit signs as it is critical that all rabbit areas are treated. Apply two applications of bait at three to four day intervals, using one of the following methods:

- Using a spade or grubber, dig and upturn a sod of earth (spit) near rabbit droppings or scratchings and place 10 to 15 pellets on each spit.
- Lightly broadcast pellets on areas of rabbit sign.

If you have concerns about children or pets accessing baits during the day, apply the pellets at dusk and pick up any uneaten pellets in the morning.

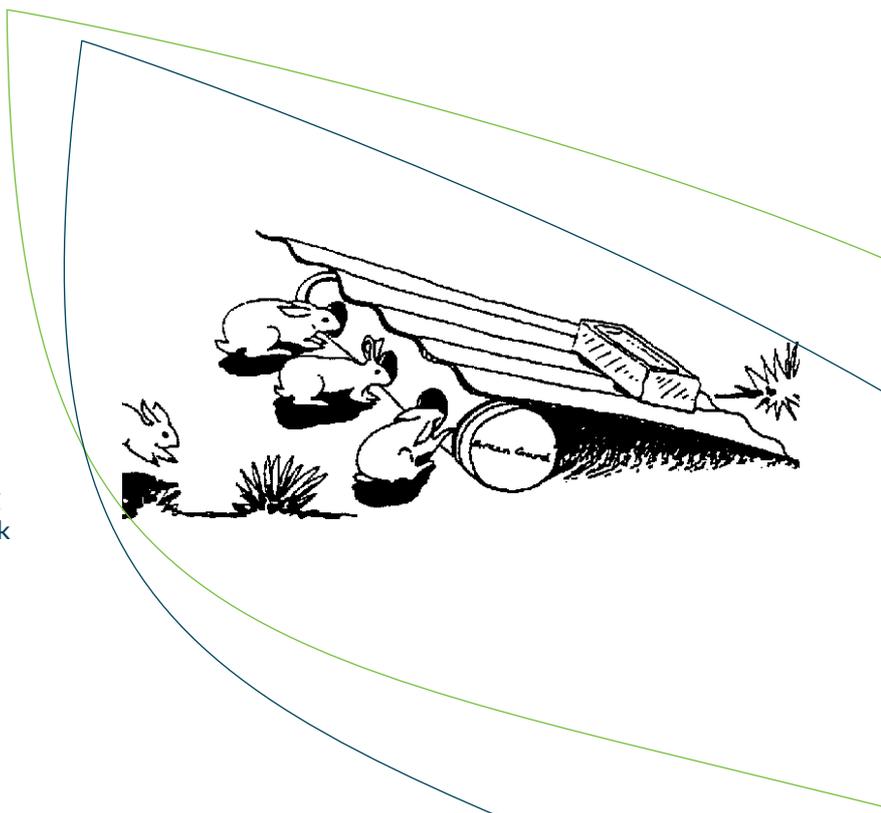
Using baitstations with Pindone rabbit pellets

Baitstations should be used in situations where it is undesirable to have poison pellets lying on open ground.

Baitstations must:

- Be a rigid reusable device or container that physically contains the bait.
- Be positioned appropriately to minimise contact with humans and stock.
- Minimise the ability for non-target animals such as dogs to access the bait.
- Protect baits from adverse weather.
- Not deter target animals like rabbits.

For baitstations to be successful, they need to be positioned correctly, like in rabbit feeding areas. For a large number of rabbits, increase the number of baitstations and spread them through areas containing rabbit signs.



Tips For using the NoPests® MultiFeeder Bait Station For Pindone Rabbit Bait

An effective and user-friendly bait station for the use of pindone pellets is the NoPests® Multifeeder Bait Station. These are available at most agricultural supply stores. The following best practice guide outlines how to use the station.

- Half fill Bait Station by removing end cap. To avoid spillage, this may be easier to do with holes closed off.
- Twist the Multifeeder holes so they are presented at an angle for the rabbits to feed easily. They do not like a vertical presentation
- Place Bait Station in the open where rabbits normally feed or next to a 'run' where rabbits pass through a fence or hedge.



- Place on short grass or bare ground where rabbits frequently feed or where droppings are noticed.
- Turning some sods of dirt in front of the bait station can encourage rabbits to investigate the bait station and bait.
- As rabbits are neo-phobic place Multifeeder bait station in feeding location for 7-12 days before baiting to allow rabbits time to adjust to its presence.
- Timing of baiting is important as it can be difficult to compete against readily available food e.g. spring flush.
- The NoPests Multi feeder allows 2-3 Rabbits to feed simultaneously.
- Ensure enough stations are in place as dominant males will prevent lower hierarchy rabbits from feeding.
- Close the Multifeeder during rain to prevent bait from becoming soggy
- Close the Multifeeder during the day if birds are stealing the bait.
- Re-open the Multifeeder at dusk as birds retire to roost for the night.

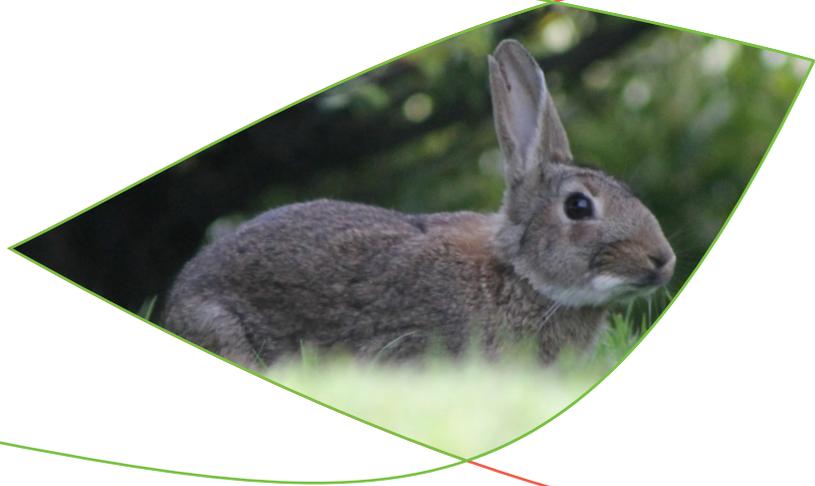
Safety with rabbit poisons and fumigants

All pesticide containers are labelled with handling and storage instructions, poison symptoms and first aid treatment. Ensure you read and thoroughly understand these instructions before attempting to use any poisons.

The main points to consider are:

- Suitable storage in a lockable cupboard or shed. The storage area should be cool and dry and must not contain any foodstuffs, sprays or fuels to avoid contamination risk.
- Wear appropriate protective clothing while handling poisonous bait or material e.g. overalls, rubber gloves and boots.
- Remove protective clothing and wash hands before eating or smoking after handling poisons.
- Comply with handling instructions as stated on the poison container label.
- Dispose of empty poison bags or containers according to the manufacturer's instructions.
- Warn neighbours and the public of poisoning operations.

Fumigation



Contrary to popular belief, rabbits do not always live in burrows, they can be quite happy living under buildings or in patches of heavy cover. However, if you happen to see rabbits using a burrow they can be controlled by fumigation.

Fumigants are poisons used to kill rabbits in their burrows. When a fumigant is introduced to a burrow system it produces toxic fumes, which are inhaled by the rabbits causing death by absorption through the lungs.

The main advantage with using fumigants is that the operator does not have to rely on the rabbit eating poison bait. It is also a very effective method of controlling young rabbits which do not wander far from their burrows and are normally difficult to poison and shoot.

Fumigation is a labour-intensive control method and is best used to control medium to low density populations or in conjunction with methods such as night shooting or as a follow-up method after poisoning.

The most commonly used fumigant for rabbit control currently is Magtoxin, which produces phosphine gas when exposed to moisture. After decomposition it leaves a grey-white powder, this is not considered to be a hazardous waste

While other fumigants are available, we recommend only experienced pest controllers use them.



How to fumigate a rabbit burrow

Equipment needed

- Fumigant.
- Spade or grubber.
- Protective clothing such as overalls, rubber gloves.
- Respirator may be required when using some fumigants.

Method

Fumigation can be used to control rabbits in two ways: firstly to kill rabbits that are seen to run down a particular burrow, or block fumigation i.e. the fumigation of burrows that are encountered while systematically searching paddocks. When carrying out block fumigation, it is a good idea to use a dog to hunt the area first. This helps to drive rabbits into cover underground. It is essential that dogs in the vicinity are under good control and restrained before you start fumigating.

If you are dealing with only occasional rabbit burrows, check the surrounding area for other possible entrances once a burrow is discovered. Burrows often have more than one opening.

Next, using the spade or grubber, cut back the opening of the burrow so you have easy access to the burrow. Then cut a sod of earth the appropriate size to completely block the entrance and place it within reach of the entrance.

As you prepare to apply the fumigant to the burrow, ensure that you are positioned so that any escaping fumes are blown away from you by the wind rather than toward you. Take the correct amount of fumigant (usually 4-5 tablets per burrow) from the container and immediately close the container.

Place the fumigant tablets at least 30-40 cm into the burrow. Immediately seal the burrow by placing the sod of earth, grass side down (this prevents loose soil from falling onto the fumigant and burying it) into the entrance and stamping it in to make the burrow as air tight as possible.

Then back fill the entrance area of the burrow and try to level the ground off to remove as much of the entrance as possible. Systematically fumigate all burrow entrances found.

If you are using Magtoxin in very dry conditions, it is advisable to place a piece of damp paper or cloth down the burrow after the fumigant has been applied. This will speed the generation of phosphine gas.

If a burrow is discovered that is obviously not in use (cobwebs in the entrance are good indicators of this) there is no point in applying fumigant. However, ensure you properly block these burrows to prevent rabbits from using them in the future.

Disposal

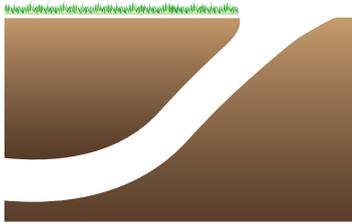
For disposal of unwanted fumigant and fumigant containers, contact HBRC and speak to an Animal Pests Biosecurity Advisor.

Disclaimer:

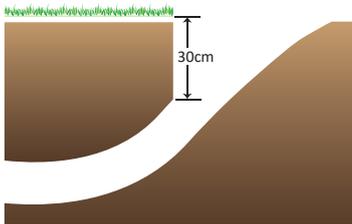
DISCLAIMER: *The choice of chemical and its application [this includes method of application and rate of application] is the sole responsibility of the user. Hawke's Bay Regional Council makes no representation that the chemical will be effective in respect of any one application or a series of applications. Hawke's Bay Regional Council shall not be liable for any damages or consequential loss arising out of the choice or application of any chemical. The information contained in this guide does not necessarily appear on the labels of the products identified. The mention of product trade names implies neither endorsement of those products nor criticism of similar products not mentioned. Nothing in this guide shall be construed as a supply of any goods or services for the purposes of the Consumer Guarantees Act 1993.*



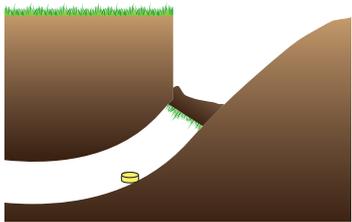
Method of placing fumigant in rabbit burrow



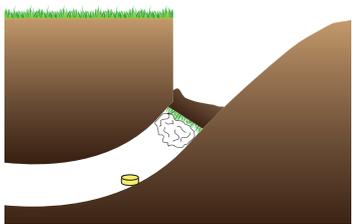
Original opening



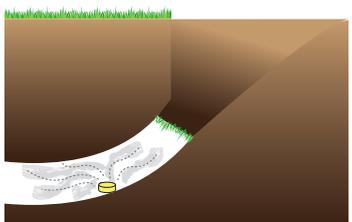
Cut back opening



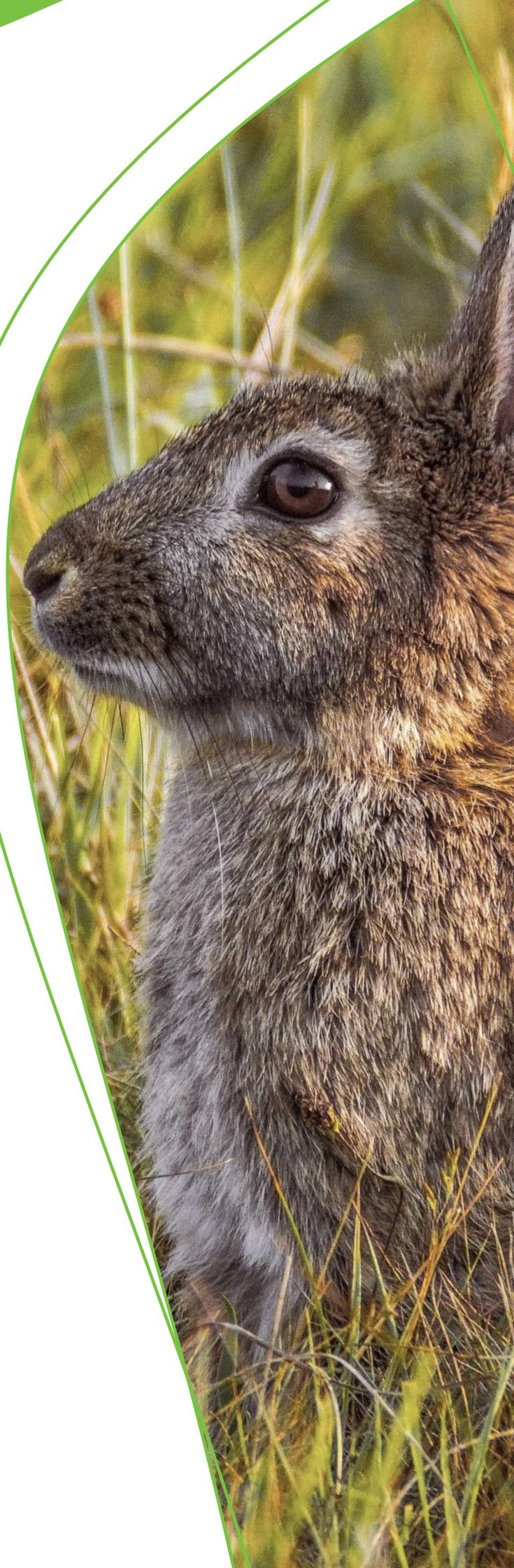
Placement of fumigant tablet and earth sod



When using Magtoxin in very dry conditions - placement of fumigant and damp newspaper or cloth before the earth sod.



Filled in opening



Exclusion fencing



Gardens and specific crops can be protected by preventing rabbits from gaining access to them. This is usually achieved by fencing.

To be effective, a rabbit-proof fence should be at least 80 cm in height and made from galvanised wire netting with a maximum mesh size of 3 cm.

As rabbits are capable of digging under fences, the bottom of the netting should be buried 20 cm into the ground or turned out along the top of the ground in the direction that the rabbits will attempt to enter. Gates through the fence must be close fitting, preferably with a concrete sill under them to prevent rabbits from burrowing underneath.

Individual shrubs and trees can be protected by using rabbit netting cylinders, plastic sheaths or steel guards. Electric fencing can also prevent rabbits from damaging crops and gardens.

Repellents

Repellent preparations are designed to render plants unpalatable and unattractive to browsing rabbits.

Repellents are generally applied as foliar sprays, which have to be reapplied periodically to treat new growth occurring within browsing range (40 cm–50 cm above ground level). Spray-on repellent solutions should not be applied to the point of run-off as with other garden sprays. Adhesives in repellent mixes can block plant stomata when heavy applications are used, especially on delicate or bipinnate foliage. A coarse droplet size and a 50% foliar coverage overall are adequate for repellent spray application.

The following commercial preparations are available through garden centres and agricultural merchants:

- ‘Thiropsect’ a thiram-based repellent.
- ‘Treepel’ an egg-based repellent.
- ‘Plantskydd’ available online from NZ stockists.

If using repellents on a small scale, the following ‘homebrew’ options can also be considered.

EGG MIX:

4 eggs
100 ml water-based paint
900 ml water

Mix eggs and paint together, then add water. Pour through strainer into spray applicator. This mix does not persist as well as commercial egg preparations and usually has to be reapplied at three-weekly intervals.

THIRAM MIX:

50g thiram fungicide wettable powder
100 ml water-based paint
900 ml water

Mix thiram powder with a little water to make a paste, then add rest of water and the paint. Thiram provides good protection but remember it is an agrichemical – avoid skin and eye contact and inhalation of spray mist.

Note all label instructions regarding use and handling, as well as first aid information.

Trapping

Using traps and snares can be effective in reducing rabbit numbers in urban gardens. However this method can be time consuming. It also requires knowledge of correct trap or snare placement to prevent non-target captures and to be successful.

Trapping is not recommended unless you already have some experience in rabbit-trapping techniques. Before considering trapping as a control option, check your local district Council to ensure that the use of leg hold traps, or snares is allowed under the local bylaws.

The following methods can also be considered:

- Spray the lower parts of the trees in spring with a strong lime sulphur wash.
- A strong solution of Jeyes fluid will give temporary protection if sprayed evenly around the plants.
- Sprinkle the garden with naphthalene moth balls or blood and bone fertiliser.

Habitat manipulation

Rabbits will generally only inhabit suitable territory. Habitat changes which make territory less desirable to a rabbit population will lead to reductions in the numbers of rabbits present in that territory.

This is termed 'habitat manipulation' and it can have a more permanent impact on rabbit numbers than control methods such as poisoning.

Unfortunately, gardens and lawns with short grass, variety of foods and cover in the form of garden sheds, wood piles, dense vegetation to live under, can offer rabbits a very good habitat.

Remove any piles of wood or rubbish that may be in the garden and ensure that any gaps under buildings and sheds are blocked to prevent rabbits from gaining access. The low pruning of shrubs and hedges and the removal of other vegetation that offer rabbits protection from the weather and predators will make your garden less suitable to rabbits.

Maximising lawn areas will also make your garden less desirable to rabbits.



Night-shooting & rifling



Nightshooting and rifling (stalking at dawn or evening) are probably the most common forms of rabbit control carried out in New Zealand. Nightshooting in particular, is an effective method of controlling light rabbit infestations. Nightshooting (spotlighting) involves searching for animal pests at night using a spotlight to locate pests while they are feeding, or are away from cover.

To be effective, a systematic approach is required by an experienced operator. Shooting to control medium or high rabbit numbers has a limited effect on the population level and surviving rabbits become more wary. Poisoning is an appropriate and more cost-effective method for controlling medium to high levels of rabbits.

Best results from shooting operations are obtained on properties that have good access and little cover. A competent operator can shoot approximately 30 percent of the resident rabbit population in a single nightshoot. To achieve a significant reduction of infestation levels, three to four nightshoots need to be carried out.

Suitable firearm

To use a firearm, the operator must hold a current firearm licence or be working under the immediate supervision (within sight and hearing) of a licence holder. The operator must be fully conversant with the 'Arms Code' firearms safety manual issued by the New Zealand Police.

A .22 rimfire rifle fitted with a good quality scope is recommended for all night shooting. The use of sound moderators and sub-sonic hollow point ammunition is also recommended. Self-loading rifles are commonly used by professional operators, although all magazine fed actions are suitable. Rabbits are often encountered in small groups therefore single-shot rifles are not recommended for nightshooting.

While shotguns are effective for shooting rabbits flushed from cover, or in situations where safe range is limited, they are not generally recommended for nightshooting because their noise level will drive nearby rabbits into cover. Where shotguns are used, a 12 gauge bore is recommended using cartridges loaded with No 4 lead shot.

All firearms must be well maintained and the shooter must be totally familiar with their operation. Rifles should be 'sighted-in' periodically under range conditions to ensure their accuracy is maintained.

*Right: Suitable firearms – Ruger 10/22 (self-loading), Ruger 77/22 (bolt-action), Winchester (lever action), Franchi 12G (self-loading).
Below: Headband spotlight with battery pack*



Suitable spotlights for nightshooting

There is a wide selection of spotlights available and new technology is being released on a regular basis. Historically, the recommended system used by most pest control operators is a helmet or headband mounted 12 volt 35 watt spotlight. A 35 watt light gives adequate illumination to cover the normal shooting range of a .22 rifle (i.e. 80 m). A 12 volt sealed lead acid maintenance free rechargeable battery, carried in a specifically designed backpack or hipbelt, is used as a power source.

High power LED torches, spotlights and headlamps are now available that provide adequate light over a greater distance and field. The advantage of these lights is they are compact, light, and easy to use and maintain. Headlamps can be difficult to use effectively with a scope therefore are not the best option unless tested adequately to determine the best set-up. Powerful LED torches are easy to use and effective as an alternative to heavier battery powered spotlights particularly if rifle mounted. Though available, rifle-mounted lights alone are not recommended. This configuration requires the rifle to be pointed with the spotlight, which can be tiring and unsafe. A combination of LED headlamp and rifle mounted LED torch can be a very effective setup.

Techniques for nightshooting

Prior to carrying out a nightshooting operation, it is essential that the area to be nightshot be thoroughly inspected during the day. Look for rabbit feeding areas, normally indicated by shortly cropped grass with rabbit scratchings and droppings.

Also take note of potential areas of cover which the resident pest population may be using. 'Runs' from cover to feeding areas may be evident. Predetermine your nightshoot route so you approach these areas between the rabbits and their cover. Take note of potential hazards and landmarks that will help you navigate at night.

A .22 rifle bullet can travel up to 3 km. It is essential you carefully consider your safe firing zones during the day, as your vision at night will be limited to the range of the spotlight!

It is important to consider farmed stock as they may hinder a shooting operation. Try to avoid heavily stocked paddocks, as these animals will probably frighten rabbits by moving ahead of you. Cattle can cause problems by following you. Paddocks containing horses and deer should not be entered unless absolutely necessary.

These animals are easily frightened by spotlights and may injure themselves running into fences or other obstacles.

Planning a nightshoot

There are several factors to consider before nightshooting.

- **Weather:** Heavy rain, frosts and strong winds affect animal pest emergence from cover and limit the effectiveness of the shoot. However, light rain tends to make rabbits 'sit' and become easy targets. Ideal conditions for nightshooting are warm, dry weather with little wind.
- **Rabbit behavior:** Rabbits will feed voraciously early in the evening and then intermittently through the rest of the night. Dominant rabbits will usually feed first with younger rabbits occupying the feeding areas later. This means it is often worthwhile rechecking an area where rabbits were shot earlier in the evening.
- **Moon phase:** Full moon phases are not generally good times for nightshooting. The bright conditions allow rabbits to detect the operator and this tends to make them 'flighty' and difficult to shoot.

- **Previous nightshooting:** Ineffective nightshooting in the past may have produced rabbits that are “shy” of both lights and guns. The only way of overcoming this problem is to prevent any shooting on the block for several months to allow the rabbit population to settle down.
- **Predators:** If rabbit feeding areas are checked with a spotlight and no rabbits are seen, predators may have scared them. Recheck these areas on another occasion.
- Ensure you carry a torch, first aid kit and, if you are using a motorbike, a tool kit. Always inform someone of your intentions!

Spotlight techniques

The spotlight is used to identify target animals. Rabbits and other animal pests should be identified by both eye reflection and body shapes; do not shoot at silhouettes or reflections. If you notice an animal but do not see an eye reflection, ensure that you positively identify it as a target animal before shooting.

Successful nightshooting is reliant on good spotlight technique, so consider the following:

- If you are not using a headband or helmet-mounted light, ensure you search with the light held directly below your eyes. This allows for animal eye reflections to be readily seen.
- Do not shine the light outside of effective gun range. This will result in rabbits being alerted to your presence before you are in a position to shoot them.
- Use steady side to side sweeps of the light while searching for animals. Jerky or erratic flashes of the light may frighten animals ahead of you.
- Always search from cover edges first and work towards feeding areas i.e. hunt the edges or fence-line boundary of paddocks first, slowly moving closer to the centre in a rotational direction. Shoot the rabbits closer to cover or fence-lines first.

Rabbits will often hesitate if you are between them and their cover making them easier targets.

- If a single rabbit is sighted, always presume that another is nearby. Once the rabbit has been shot, intensively search the surrounding area for its mate.

Typical rabbit feeding area - shortly cropped grass with associated rabbit droppings.



- Once a rabbit has been found, hold it on the edge of the light till you are ready to shoot. Rabbits (and most other animals) will sit quietly if the light is not shone directly at them.

Shooting techniques

Rabbits missed on a nightshoot will likely become light and/or gun shy. Successful shooting requires practice, not just at stationary targets but also moving ones. Remember judging distances at night can be difficult so practice at night on targets at predetermined ranges.

Never attempt a shot at an animal pest unless you are confident of killing it and you are sure it is safe, be aware of the environment behind the target. This particularly applies to running or moving targets. Keeping the non-sighting eye open allows for peripheral awareness. This takes practice but allows

for animal movement and other objects to be seen outside of the focus area or field of view.

Consider the following points:

- Aim for the centre of the chest or shoulder for a clean kill. Head shots are easily missed.
- If a rest is available, use it. If no rest is available consider shooting from a sitting or kneeling position. Always try to make each shot as easy as possible.
- If two or more rabbits are sighted at the same time, shoot any moving rabbit first. If they are sitting, shoot any that are lying down with their ears held down first.
- If a rabbit runs, it will often stop at a fence or on cover edges and allow an easier shot.

Use of vehicles and motorbikes for nightshooting

- It is illegal to carry loaded firearms in a vehicle on public roads.
- It is illegal to carry loaded firearms or firearms ready to be fired, in a vehicle on public roads. It is also illegal to shoot on or from public roads.
- If scanning for rabbits while moving, keep speed below 20km/hr, a crawling pace should be all that's required when spotlighting.

Vehicles

Vehicle nightshooting usually involves one person shooting and another driving. Both can use spotlights. Vehicle access over farmland is generally limited, so it's essential a portable spotlight is carried, so rabbit areas out of vehicle range can be hunted.

Clear coordination between the driver and shooter is required at all times. The vehicle should also be fitted with a suitable support frame for the shooter and secure gun racks if possible. The driver needs to be a competent cross-country driver and know the property.

Motorbikes

Motorbikes and more recently ATV's revolutionised night shooting. The rider should be experienced at cross country riding and have a good knowledge of the property. Firearms are best transported in scabbards fitted to the front forks of the bike. Four-wheelers can be fitted with secure gun racks.

Night riding while searching for animals with a spotlight requires practice to become proficient. Exercise extreme caution, ride slowly and stay constantly alert for hazards. Scan the ground ahead for hazards before moving on, they will be highlighted by shadows created by the spotlight. If in doubt, walk ahead to determine the way is safe, especially in long grass or very soft ground. Do not be tempted to chase running animals! If you have an accident or drop the bike and you are uninjured, immediately unload and check your firearms for damage. If you have any doubts concerning the safe condition of the weapon, abort the shoot, and have the firearm checked by a gunsmith.



Helmet mounted spotlight. Operator demonstrating technique for shooting from a motorcycle

The Hawke's Bay Regional Council wish to acknowledge the Bay of Plenty Regional Council for the use of their base document 'Rabbit Control Options 2016'.



*For more information on rabbit control contact a
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